Radiology case report: a nasty orbital abscess

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A 17 year old boy was assaulted with a skateboard, from which he sustained a laceration to his forehead and below his left eye. His wounds were closed primarily in accident and emergency and he was given a course of oral flucloxacillin. He returned to the department two days later having become increasingly unwell with lethargy, fever, and marked swelling with tenderness over the left lower eyelid.

On examination he had a tachycardia of 120 and a pyrexia of 38.9. He had mild chemosis of the left eye with a visual acuity of 3/24 compared with 4/6 in the unaffected right eye. Plain facial radiographs where taken. These showed an abscess with a fluid level in the region of the lower left eye (fig 1). No foreign bodies were seen and there were no facial bone fractures.

Computed tomography showed a large gas containing abscess present in the soft tissues of the left inferior orbital region. The abscess extended posteriorly into the anterior part of the orbit with the globe elevated. No fractures were visible into the paranasal sinuses (fig 2).

After discussion with the duty microbiologist, intravenous augmentin, flucloxicillin, metronidazole and ciprofloxicin were given.

Drainage of the abscess under general anaesthesia was performed. On initial incision gas under pressure escaped from the wound.

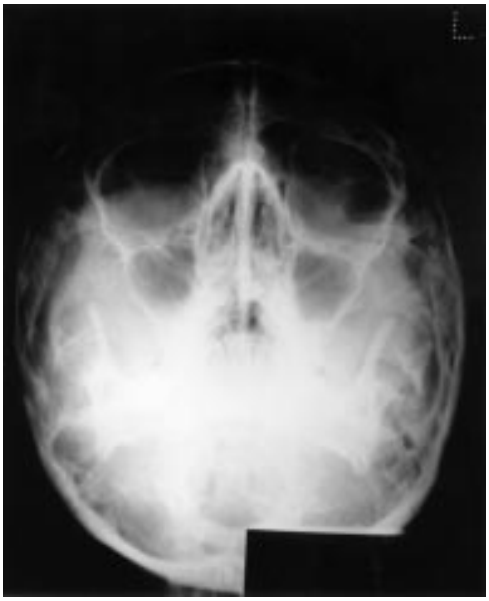

Figure 1 Plain radiograph showing abscess and fluid level.

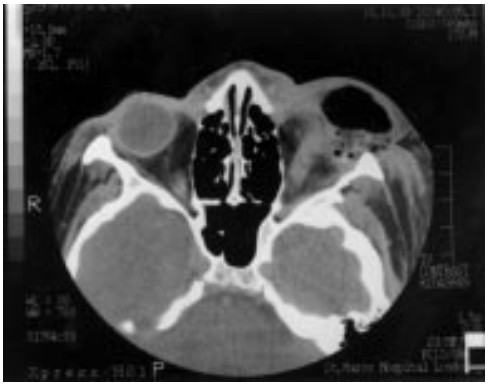

Figure 2 Computed tomography showing abscess.

Some 15 ml of pus was drained and was sent for culture. The wound was explored and several pieces of (skateboard) wood were removed from the wound. The wound was thoroughly irrigated, left open and packed with betadine gauze.

Urgent Gram stain showed +++ WBCs, +++ Gram negative rods and + Gram positive cocci. Subsequent culture grew +++ Haemophilus sp, +alpha haemolytic streptococcus and scanty *Enterococcus Sp*.

He was treated with daily packing of the cavity with Betadine dressings and made an excellent recovery with discharge five days later. He was put on a one week course of oral Co-Amoxiclav. His vision recovered completely and the wounds healed satisfactorily.

Facial wounds and injuries should be treated aggressively as facial infection can rapidly spread orbitally and intracranially. Gas forming organisms and other anaerobes are often present in grossly contaminated wounds. Intravenous antibiotics need to cover in particular *Clostridia, Pseudomonas, Staphylococcal and Streptococcal species*. Unchecked infection may result in osteomyelitis, paralysis of motor nerves, optic neuritis and permanent blindness. Wood retained in the orbit may cause granuloma, abscess or fistula.

There must be a low threshold for direct deep exploration of wounds, if necessary performed under general anaesthesia.[1] The tract should be explored to the apex using narrow malleable retractors. The wound should be left open postoperatively.

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1 Ferguson III EC. Deep, wooden foreign bodies of the orbit a report of two cases. *Trans Am Acad Ophthalmol Otol* 1970;74:778–87.

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